REMARKS

Claims 1-10 and 12 are pending in the application. Claims 1, 3, 6 and 12 are amended above to more clearly set forth what the Applicant regards as the invention. The title is amended to make it more descriptive. No new matter has been added to the application by way of these specification and claim amendments.

I. THE SPECIFICATION OBJECTION

The examiner objected to the application title because it is not descriptive.

The title is amended above to be more descriptive.

II. THE SECTION 112, 2nd PARAGRAPH REJECTIONS

The examiner rejected claims 1, 3, 6 and 12 under 35 USC Section 112, second paragraph. The examiner's rejections are overcome or they are traversed as set forth below.

- The examiner's rejection of claim 1 for reciting the limitation "said axis" is overcome by amending the claim preamble and claim clause (vi) to refer to the axis as a "longitudinal axis of the spectrometer".
- The examiner's rejection of claim 1 for lack of antecedent basis for the terms "one beam splitter" and "the other beam splitter" in the last clause is hereby traversed. The examiner correctly indicates that the claimed imaging spectrometer can include more than two beam splitters. However, claim 1 also encompasses devices that include only two beam splitters. Moreover, the examiner misidentifies the objectionable term in clause (vi) as being "other beam splitter" when the term in fact is "other beam splitter(s)" – which contemplates 2 or more other beam splitters. Therefore, the term "one beam splitter and "other beam splitter(s)" finds antecedent basis clauses (ii) and (iii) of claim 1.
- The examiner's rejection of claim 3 is overcome by amending the claim to state that all beam splitters are Wollaston prisms.
- The examiner's rejection of claim 6 is overcome by amending the claim to specifically identify the beam splitters.
- The examiner's rejection of claim 12 is overcome by amending the claim to recite

several method steps.

III. THE SECTION 101 REJECTION OF CLAIM 12

The examiner rejected claim 12 under 35 USC of Section 101 for claiming a use without setting forth any steps involved in the process.

The examiner's rejection is overcome by amending claim 12 to recite a use with several process steps.

IV. THE ANTICIPATION REJECTION

The examiner rejected claims 1-8, 10 and 12 for being anticipated by DE 4016731 (GB 2245381). It is the examiner's position that DE '731 discloses all the features of the rejected claims including a first polarizing beamsplitter (4) and at least one additional polarizing beamsplitter (5-7). However, the examiner is incorrect is this regard as DE '731 discloses a device that has no polarizing beamsplitters.

Element 4 of DE '731 is not a beamsplitter. Instead, element 4 is a delay element (i.e. a fixed waveplate) which is either separate from (Figs 1 and 2) or integrated with (Figs 3-5) a wedge arrangement 5, 6. The wedge arrangement 5, 6 is not a polarising beam splitter and nowhere in DE '731 is it referred to as such. The wedge arrangement 5, 6 is in fact a variable waveplate. Indeed, GB '381 from line 17 on page 6 to line 12 on page 7, teaches that by moving the moveable wedge, the optical path through the two wedges can be adjusted to change the phase shift between light components polarised parallel and perpendicular to the optic axis of wedge material. This is a description of variable waveplate – not a beamsplitter. For at least these reasons, claims 1-8, 10 and 12 are novel over DE '731.

V. THE OBVIOUSNESS REJECTION

The examiner rejected claims 1-10 and 12 for being unpatentable for obviousness over Padgett et al. (USP 5,781,293). It is the examiner's position that Padgett et al. discloses a Fourier transform spectrometer that includes all of the features of the claimed invention except for showing that one beam splitter is mounted for movement perpendicular to said axis while the other beam splitter(s) are rigidly mounted against such movement. It is the examiner's position, however, that Padgett et al. provides a suggestion for such mounting. Based upon the

suggestion, it is the examiner's position that at the time of the invention, one of ordinary skill in the art would have moved a Wollaston prism to vary the path difference between the two polarizations.

Padgett et al. discloses two invention embodiments – neither of which includes at least two beam splitters with one being moveable. The first embodiment (col. 1, line 52 to col. 2, line 18) is directed to a device that uses a single moving Wollaston prism to change the path difference traversed by two rays of orthogonal polarisation. The second embodiment (col. 2, lines 19-25) is directed to a spectrometer with two Wollaston prisms but **no moving parts**.

The excerpt of Padgett et al. cited by the examiner as the motivation for modifying the second embodiment to include a moving beam splitter actually is a discussion of the operation of the first invention embodiment that the examiner has taken out of context. Padgett et al. discusses the two embodiments in the alternative as separate and distinct devices. Thus, the excerpt cited by the examiner can only be read to refer to the first embodiment with a single movable Wollaston prism. Indeed, Padgett et al. teaches away from modifying the second embodiment to include a moveable beam splitter by expressly stating that the device includes no moving parts. Clearly, there is no suggestion or motivation in Padgett et al. to modify the second invention embodiment to include moving parts and the examiner's obviousness rejection must be withdrawn.

Padgett et al. Figure 6 shows an extended source and col. 2, lines 19-25 of Padgett et al. discloses that an extended source is a feature of the second invention embodiment. Therefore, Figure 6 of Padgett et al. is an example of the second embodiment - a spectrometer with no moving parts including two immobile Wollaston prisms. To make one of the prisms of Figure 6 moveable, as the examiner suggests, would run contrary to the teaching of Padgett et al. that there are no moving parts in the second embodiment. Moreover, to make one of the prisms movable would be inconsistent with the purpose and operation of the second embodiment. Looking at col. 4, line 6-12, a key feature of the second embodiment shown in Figure 6 is that the effective splitting plane for the two polarisations lies in a plane perpendicular to the optical axis of the instrument. This is achieved by use of a matched prism pair with opposing internal angles (Col. 4, lines 8-9). Moving one of the prisms with respect to the other in a direction perpendicular to the axis of the instrument is not consistent with maintaining this advantage because the optical paths traversed by a given ray would then not be equal in corresponding parts

of the two prisms, i.e. the pair would not be "matched" if one were to displace one of the prisms. Again, displacing one prism contradicts the teaching of Padgett et al. in relation to the Figure 6 embodiment. Therefore, all pending application claims are non-obvious and patentable over Padgett et al.

CONCLUSION

Claims 1-10 and 12 are believed to be patentable for the reasons recited above. Favorable reconsideration and allowance of all pending application claims is, therefore, courteously solicited.

Date: December 20, 2007

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